

**FORMULASI DAN EVALUASI *ESSENCE SHEET MASK* DARI *WHEY*
YOGURT SUSU SAPI SERTA UJI AKTIVITASNYA SEBAGAI
ANTIBAKTERI PADA *Cutibacterium acnes***

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ABSTRAK

Whey yogurt susu sapi merupakan hasil samping produksi yogurt yang kaya akan asam laktat, protein, dan peptida bioaktif yang berpotensi sebagai antibakteri dan bahan perawatan kulit. Masalah jerawat yang disebabkan oleh bakteri *Cutibacterium acnes* mendorong pengembangan sediaan topikal dengan bahan alami yang memiliki aktivitas antibakteri. Penelitian ini bertujuan untuk memformulasikan *whey* yogurt ke dalam bentuk sediaan *essence sheet mask* serta mengevaluasi pengaruh konsentrasi *whey* yogurt dalam sediaan terhadap stabilitas fisik, efek iritasi dan aktivitas antibakteri terhadap *C. acnes*. Proses pembuatan *whey* yogurt dilakukan dengan metode fermentasi, sediaan *essence* dibuat dengan menggunakan metode homogenisasi bertahap, serta uji antibakteri dilakukan dengan metode difusi cakram. *Essence sheet mask* diformulasikan dalam lima formula dan dievaluasi melalui uji organoleptik, homogenitas, pH, viskositas, daya serap, iritasi kulit serta antibakteri. Hasil penelitian menunjukkan bahwa keseluruhan formula tidak mengalami perubahan homogenitas dan organoleptik yang signifikan, tidak menunjukkan iritasi pada kulit berdasarkan uji *in vivo* pada hewan uji, formula 4 dengan *whey* yogurt 24% menunjukkan hasil stabilitas terbaik, aktivitas antibakteri tertinggi menunjukkan diameter zona hambat sebesar 9,6 mm yang termasuk ke dalam kategori sedang.

Kata kunci: *Whey* yogurt, *essence sheet mask*, *Cutibacterium acnes*, aktivitas antibakteri

**FORMULATION AND EVALUATION OF AN ESSENCE SHEET MASK
CONTAINING COW'S MILK WHEY YOGURT AND ITS
ANTIBACTERIAL ACTIVITY AGAINST *Cutibacterium acnes***

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ABSTRACT

Cow's milk whey yogurt is a by-product of yogurt production that is rich in lactic acid, proteins, and bioactive peptides, which have potential as antibacterial agents and skincare ingredients. Acne caused by *Cutibacterium acnes* has driven the development of topical formulations using natural ingredients with antibacterial properties. This study aimed to formulate whey yogurt into an essence sheet mask and to evaluate the effect of its concentration on physical stability, skin irritation, and antibacterial activity against *C. acnes*. Whey yogurt was prepared through a fermentation process, and the essence formulation was made using a stepwise homogenization method. Antibacterial activity was tested using the disc diffusion method. The essence sheet mask was formulated into five different formulas and evaluated through organoleptic tests, homogeneity, pH, viscosity, absorption, skin irritation, and antibacterial activity. The results showed that all formulations maintained stable organoleptic and homogeneity characteristics, and did not cause skin irritation based on *in vivo* testing on animals. Formula 4, containing 24% whey yogurt, exhibited the best physical stability and the highest antibacterial activity, with an inhibition zone diameter of 9,6 mm, categorized as moderate.

Keywords: Whey yogurt, essence sheet mask, *Cutibacterium acnes*, antibacterial activity